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ABSTRACT

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CatTutor
A Hypertext Tool for Catalogers

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Society for Applied Learning Technology
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Development of Effective Interactive Instruction Materials

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CatTutor

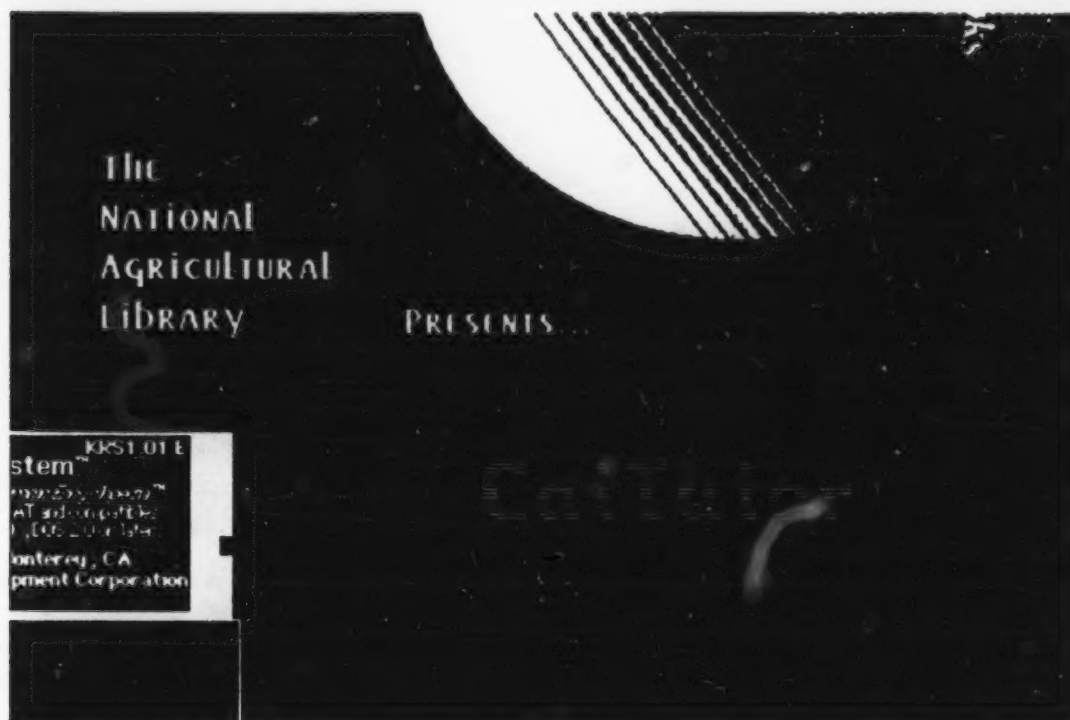
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CatTutor is an interactive tutorial for training catalogers in the descriptive cataloging of computer files. The program is comprised of a tutorial that allows the novice cataloger to build bibliographic records and that is linked through hypertext to key reference tools, including the **Anglo-American Cataloguing Rules**, the MARC format for computer files, and a glossary of relevant terminology. The project, initiated by the National Agricultural Library (NAL), is envisioned as a prototype that could be expanded to encompass other salient cataloging activities, such as the cataloging of other formats or the assigning of subject headings. Originally developed on the Macintosh and utilizing HyperCard, CatTutor is now being exported to the DOS environment. Product evaluation will be conducted in November 1990, and a final report will be issued in January 1991.



Introduction

Cataloging, the process of describing an item in a library's collection which results in a bibliographic record uniquely identifying the item, is a complex activity. The cost of creating an original cataloging record has been calculated at \$50 to \$100. Although the creation of the cataloging record has been extensively automated in the past two decades, cataloging remains a highly labor-intensive activity. Novice catalogers with an Masters in Library Science routinely require from six months to two years training by a cataloging expert. CatTutor, a hypertext tutorial for catalogers, is being developed in an attempt to streamline and standardize the training process.

Conception

The National Agricultural Library, located in Beltsville, Maryland, is a leader in the application of new technologies in the information field. In 1988, NAL, in cooperation with the University of Maryland Center for Instructional Development and Education, produced an interactive videodisc "AGRICOLearn" for training individuals in the use of its AGRICOLA database. Inspired by this project, Technical Services librarians at NAL proposed to create an interactive videodisc for training catalogers. However, this idea proved unfeasible because of the expense of production and the lack of suitable hardware for use of the product in library catalog departments. Since most libraries do have access to PC's, the project was reconceived as a computer-based tutorial.

As librarians at NAL discussed their idea with colleagues, a vision of a tutorial linked to standard reference tools in machine-readable form emerged. The product would not only train beginning catalogers, but would be an integral part of the cataloger's workstation, available for consultation during the process of cataloging. Hypertext links would facilitate access to the reference materials.

Funding

In January 1989, Apple Computer awarded NAL an Apple Library of Tomorrow grant to develop a prototype, and in December 1989, the Council on Library Resources made a generous offer of support. Additionally, the National Agricultural Library donated staff time, and several major research libraries, including Harvard University's Widener Library, the Library of Congress, the University of Pittsburgh, and the University of Wisconsin-Madison, agreed to contribute expertise to the project. Relatively speaking, however, compared to most information technology experiments, the budget is quite low. Creation of the prototype is estimated at approximately \$100,000 for equipment, software, salaries and benefits.

Design and Development

The application focusses on the descriptive cataloging of computer files. Descriptive cataloging forms the basic record on which more complex activities, such as subject analysis and classification, rest. Catalogers perceive descriptive cataloging as more predictable than subject cataloging. Likewise, the pilot limited itself to the cataloging of computer files, a relatively unknown area of cataloging in which there were few experts. The discipline of cataloging is so vast that the project designers felt it necessary to identify a small area in which they could demonstrate their concept.

To achieve its overarching goal of training novice catalogers in the creation of bibliographic records for computer files, CatTutor aims to:

1. familiarize the user with the specialized vocabulary of descriptive cataloging and computer files.
2. link related concepts in standard reference tools to enhance access to the cataloging process.
3. simulate an actual cataloging environment by providing the user with a graphic representation of the item being cataloged.
4. lead the trainee through the creation of actual cataloging records.

The first step in achieving this goal was the preparation of a glossary. Terms were selected from the Appendix D of the **Anglo-American Cataloguing Rules**, second edition, 1988 revision (AACR2R). Computer-related terminology was added later to enhance the usefulness of the glossary.

Upon completion of the glossary, the programmer and knowledge expert identified the relevant text to include for reference. Portions of AACR2R, including material from the chapter on general rules for descriptive cataloging and the rules for computer files, were scanned using an Apple scanner and converted using Omnipage software. The **Online Systems Computer Files Format**, the document that prescribes content designation for entry of the bibliographic record into the OCLC online system, was also scanned. The scanned text was reorganized and formulated into cards and stacks. Relational links were then created, tying together related guidelines within the different publications. The resulting stacks "AACR2R-Glossary," "AACR2R-Descriptive," and "USMARC-Computer Files," and branches throughout these stacks provide the background material to which the tutorial is linked.

TEXAS INSTRUMENTS HOME COMPUTER DLM ACADEMIC SKILL BUILDERS IN MATH ALLIGATOR MIX SOLID STATE CARTRIDGE This can be played using the optional Wizard Remote Controller. An arcade game format provides fun and challenge while increasing skills in addition and subtraction of numbers from 0-9. For children from kindergarten through sixth grade. 	In this area, indicate whether the file consists of: - computer data, - computer programs, or - computer data and programs. If available, also include the approximate number of records, statements, or bytes within the file(s).	See Also: Glossary AACR2R 9.3B MARC 256 MARC RECORD				
Navigational Tools	 Help	 Quit	MENU	 Back	 Backtrack	 Next

Sample Card from the Tutorial

The tutorial was created by selecting different types of computer files (floppy, cassette, remote file, etc.) and proceeding step by step in their description through application of the appropriate rules and guidelines. The trainee can opt to proceed through the tutorial by concentrating on a particular bibliographic area or by completing a single record from start to finish. Once this decision has been made, the actual lessons begin.

Each card in the tutorial contains a graphic representation of the item being cataloged; links to full-text selections of key reference tools; and a link to the MARC-tagged cataloging record as it would appear at that stage of development of the bibliographic record. At predetermined intervals, the trainee must enter cataloging data into a simulated MARC record. If the novice correctly enters the data, the MARC record is updated, and the trainee continues the tutorial. The trainee is rewarded with verbal approbation. If the data is incorrect, the system prompts the trainee to try again. After a second incorrect attempt, the system supplies the correct information. At the completion of each record, the cataloger is provided with the option of taking a quiz that assesses if the trainee has assimilated the lesson.

Technical details

CatTutor has been programmed to run on a Macintosh IIx with an 80 megabyte hard drive and 4 megabytes RAM. The HyperCard version is 95% complete and contains over 1700 cards in 13 stacks. This translates into approximately 3 megabytes of data.

Plans call for migrating CatTutor over to an IBM-PC compatible platform. PLUS by Spinnaker which operates in a Windows 3.0 environment has been selected as the DOS-based application package. The migration has already begun by converting the existing CatTutor HyperCard stacks into Macintosh PLUS files. Color is being added and needed changes are being made to various scripts within the application. The impact of colorization and script changes on file size and speed are not yet known. A marked increase in file size and reduction in speed are anticipated. Once the files have been modified in the Macintosh version of PLUS, they will be imported and converted to the Windows version. The Windows conversion is expected to begin by the end of August 1990.

Evaluation

Following internal review by CatTutor project participants, the program will be field tested at the National Agricultural Library, the University of Pittsburgh Libraries, and the University of Wisconsin-Madison Libraries in November 1990. Catalogers using the pilot will be observed by educational design consultants, will take a test

assessing their pre- and post CatTutor knowledge, and a map of their path in wending their way through the tutorial will be captured.

Future Extensions of CatTutor

If catalogers respond positively to the prototype, there are several directions for future development. A comprehensive cataloger's workstation would include the complete texts of the **Anglo American Cataloguing Rules** (a copyrighted publication), the US MARC Formats for Bibliographic Data, and other salient titles with relational links. Tutorials would be created to explicate other aspects of cataloging, such as the cataloging of serials, the assignment of subject headings, or the determination of classification numbers. The workstation would be capable of downloading updates of these texts from a central source and generating automatic links. The cataloger could toggle back and forth or have windows that would allow him to see both the text being consulted and the bibliographic record being created.

The premise of CatTutor is that if the nation's catalogers were trained using standard sources and if they would use machine-readable reference tools in support of their cataloging, a superior bibliographic record would result. Savings in training achieved through use of an interactive tutorial would lead to greater cataloging productivity. The dilemma faced by those involved in the effort is not just how to develop an effective instruction tool, but where to find the resources or the entrepreneur willing to undertake such an ambitious task. Successful development of this element of a cataloger's workstation can revolutionize the cataloging process. Combined with an expert system that would build on the capability of CatTutor, the workstation could significantly enhance and facilitate the cataloging process, leading to greater productivity, and ultimately, greater access to published materials for library users.

About the Author

Dr. Sarah E. Thomas is Associate Director for Technical Services at the National Agricultural Library (NAL) in Beltsville, Maryland. (301) 333-0018. The Technical Services Division is responsible for collection development, acquisitions, and cataloging and indexing of publications for NAL's AGRICOLA database. Prior to coming to NAL in 1984, Dr. Thomas worked at the Research Libraries Group (RLG); at the Johns Hopkins University Eisenhower Library; and at Harvard University's Widener Library.

Dr. Thomas received an A.B. degree from Smith College, an M.S. from Simmons College Graduate School of Library and Information Science, and a Ph.D. from Johns Hopkins University in German literature.